



California Regional Water Quality Control Board

Los Angeles Region

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May 17, 2002

Brian Mossman
3855 Lakewood Boulevard
Building 1A MCD001-0097
Long Beach, CA 90846

APPROVAL FOR BUILDING 2 IN-SITU REACTIVE ZONE PILOT TEST WORK PLAN, BOEING REALTY CORPORATION, FORMER C-6 FACILITY, 19503 NORMANDIE AVENUE, LOS ANGELES (FILE NO. 95-036)

Dear Mr. Mossman:

Thank you for the "Building 2 In-Situ Zone Pilot Test Workplan" (Workplan) dated August 15, 2001, prepared by Arcadis G&M. Groundwater beneath the former C6 facility contains various chlorinated volatile organic compounds (VOCs) exceeding their respective California Department of Health Services Maximum Contaminant Levels and Water Quality Control Plan (Basin Plan) objectives. Boeing proposes to remediate volatile organic compound (VOC)-impacted groundwater via bioremediation by injecting a solution of molasses or corn syrup to stimulate indigenous microorganisms to enhance reductive dechlorination.

In addition to the existing groundwater-monitoring program, Boeing evaluated monitored natural attenuation (MNA) parameters to evaluate the occurrence and rate of biodegradation of VOCs. The MNA evaluation demonstrates favorable conditions for enhanced bioremediation of VOCs in groundwater. To further increase the rate of bioremediation, Boeing proposes to add a solution of food-grade molasses or corn syrup to stimulate the growth of the indigenous microorganisms. The Workplan also states "...bioaugmentation may be implemented if, after the preliminary rounds of analytical data collection, it appears that the addition of reagent has not resulted in adequate formation or daughter compounds and end products." However, Regional Board staff does not approve of the use of bioaugmentation at this time.

We have reviewed the Workplan and approve its implementation with out the use of bioaugmentation. Please submit one copy of a report presenting the results of the pilot test and recommendations for expanding this technology for full-scale groundwater remediation at the site by **December 31, 2002**.

Injection of a solution of molasses or corn syrup into the groundwater is a discharge of waste as defined by the California Water Code section 13260 and Boeing is required to file a Report of Waste Discharge and receive Waste Discharge Requirements prior to the injection. On January 24, 2002, the Regional Board adopted Order No. R4-2002-0030 "General Waste Discharge Requirements for Groundwater Remediation at Petroleum Hydrocarbon Fuel and/or Volatile Organic Compound Impacted Sites" (General Permit) to expedite remediation. Based upon the Workplan submitted, the proposed discharge

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Mr. Mossman
Boeing Realty Corporation

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is covered under this General Permit and the Regional Board anticipate that this General Permit can be issued to Boeing within 60 days upon receipt of a complete ROWD and payment of appropriate fees.

We have also reviewed the "Site-Specific Health & Safety Plan" (H&S Plan) dated June 8, 2001, prepared by Haley & Aldrich, and the H&S Plan appears to be adequate for the proposed work. Although the work specified in the Workplan is presented by Arcadis G&M, we understand that the actual fieldwork will be conducted by Haley & Aldrich, or a subcontractor to, or under the supervision of Haley & Aldrich.

Please call Mr. John Geroch at (213) 576-6737 or Dr. Rebecca Chou at (213) 576-6733 if you have any questions.

Sincerely,



Dennis A. Dickerson
Executive Officer

cc: Scott Zachary, Haley and Aldrich
James Nguyen, Arcadis G&M
Chris Nagler, Department of Water Resources, Southern District
Jose Reynoso, Los Angeles County Department of Health Services, Water Well Permits/Well Abandonment

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